

FIG.1

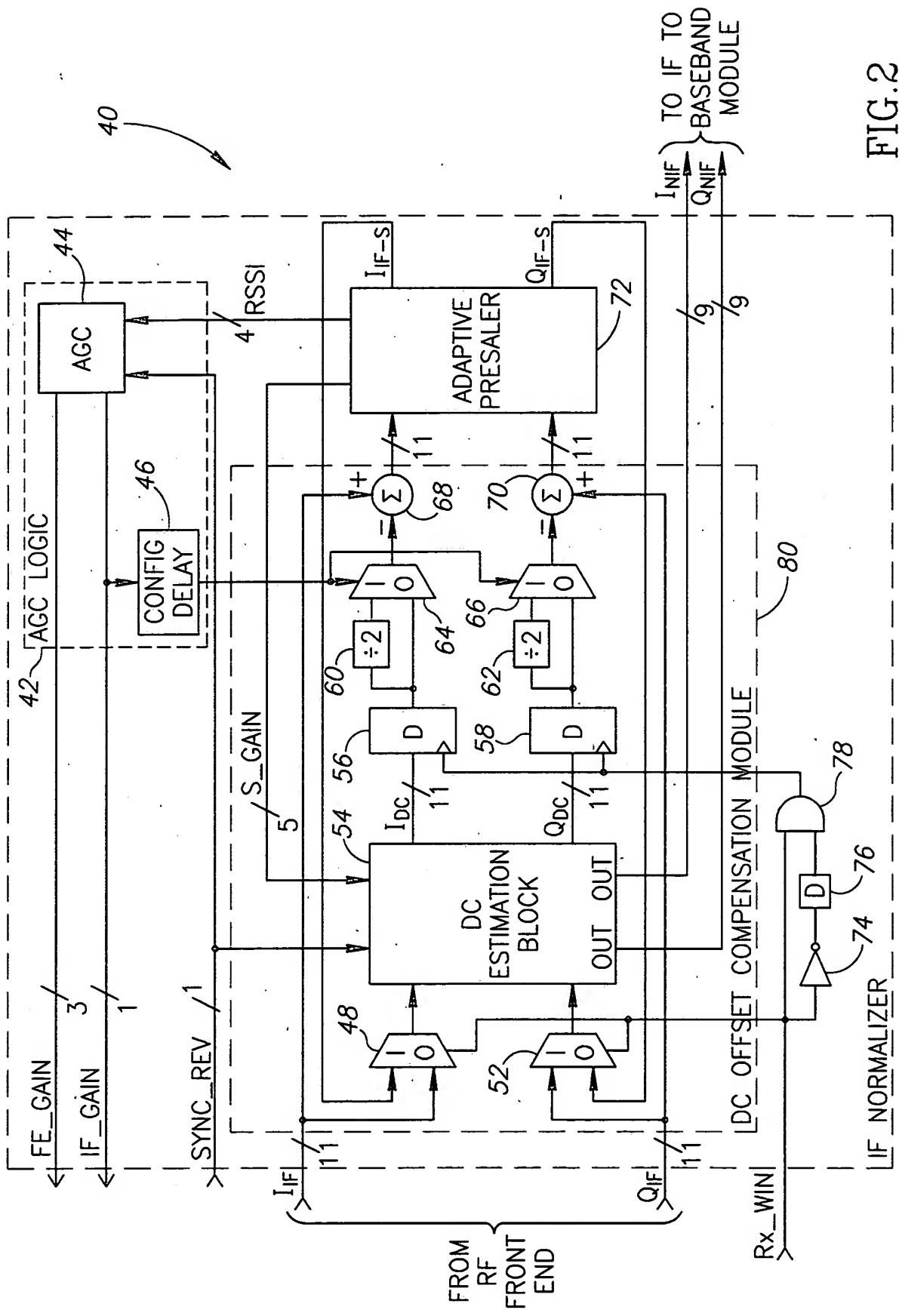


FIG. 2

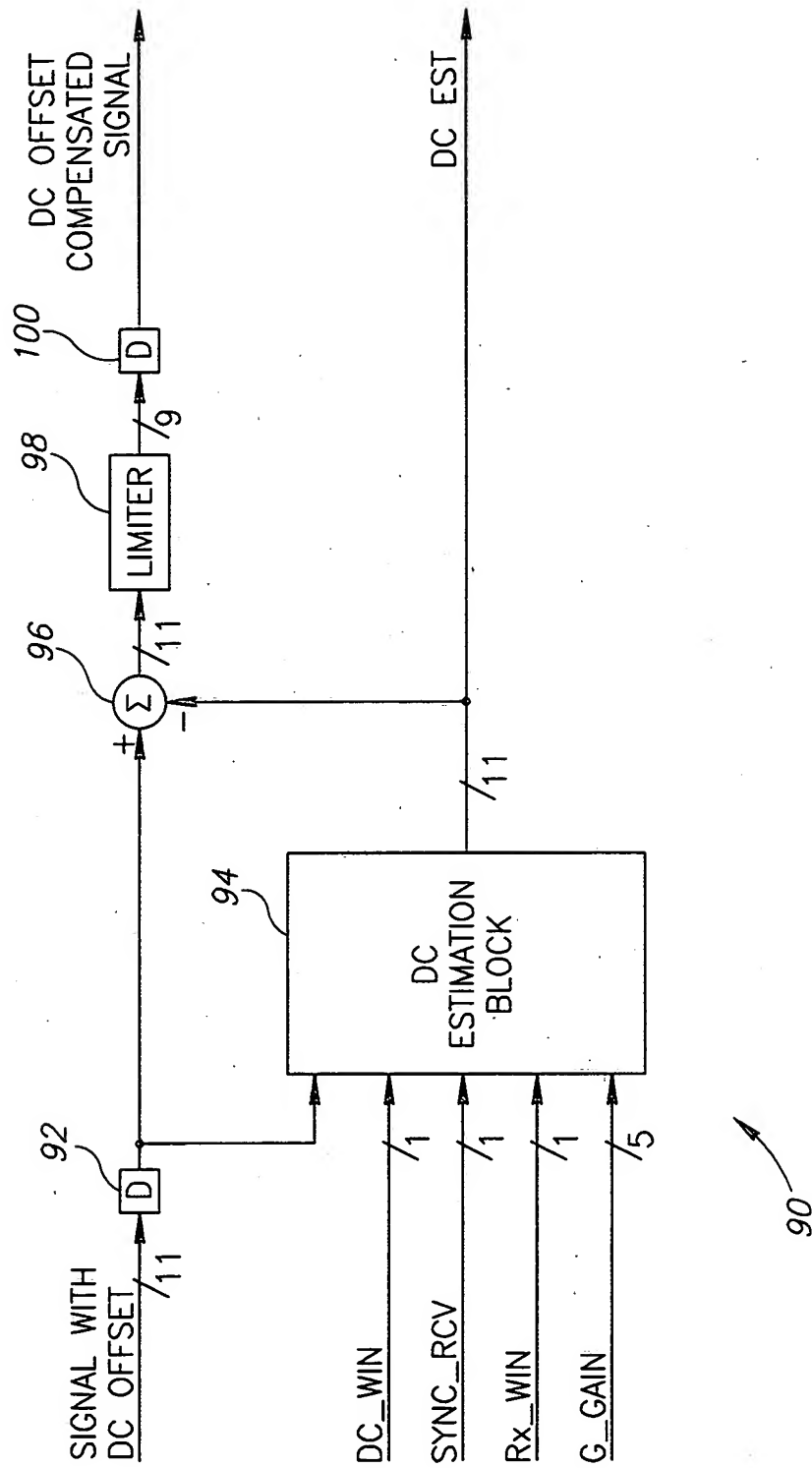


FIG.3

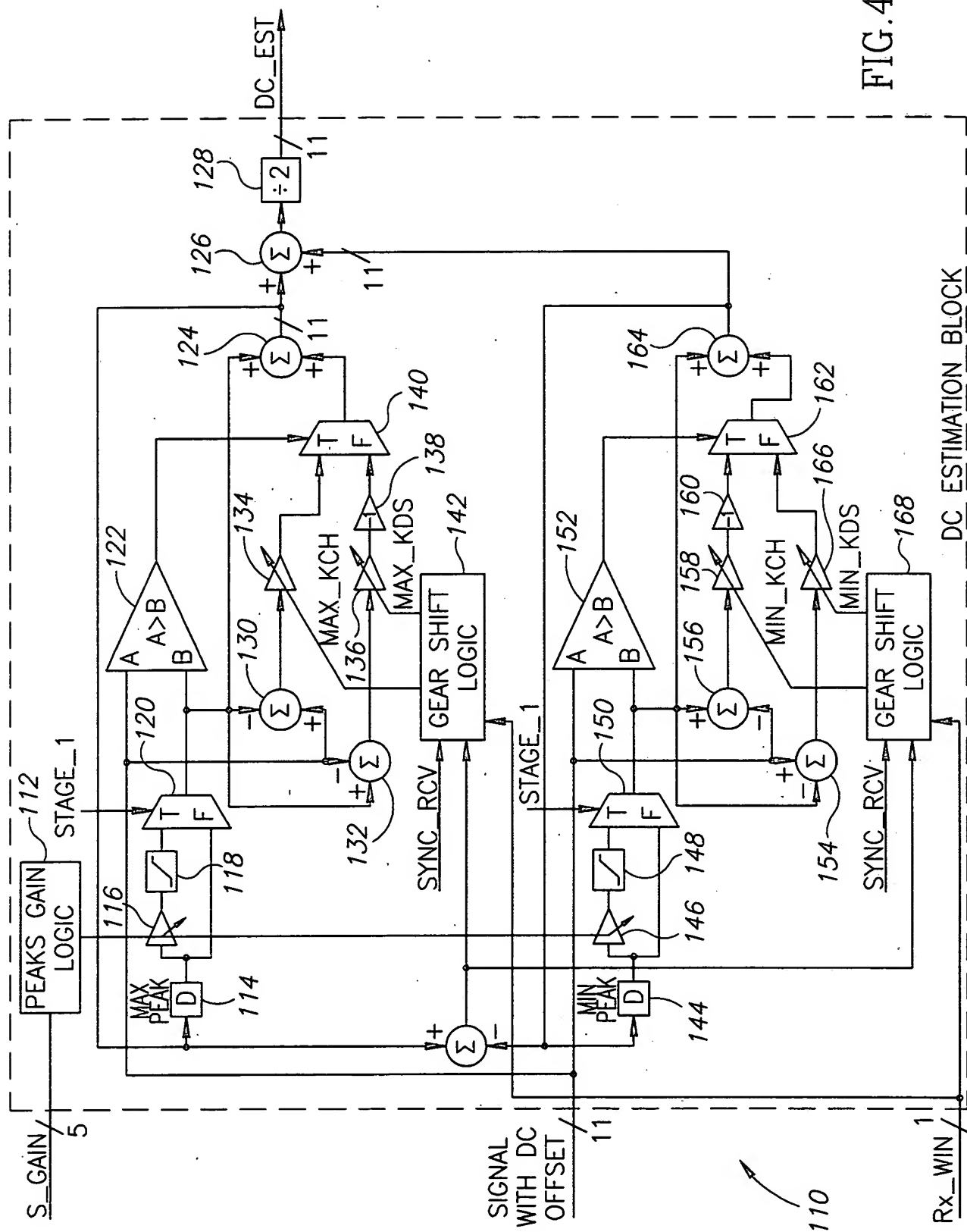


FIG. 4

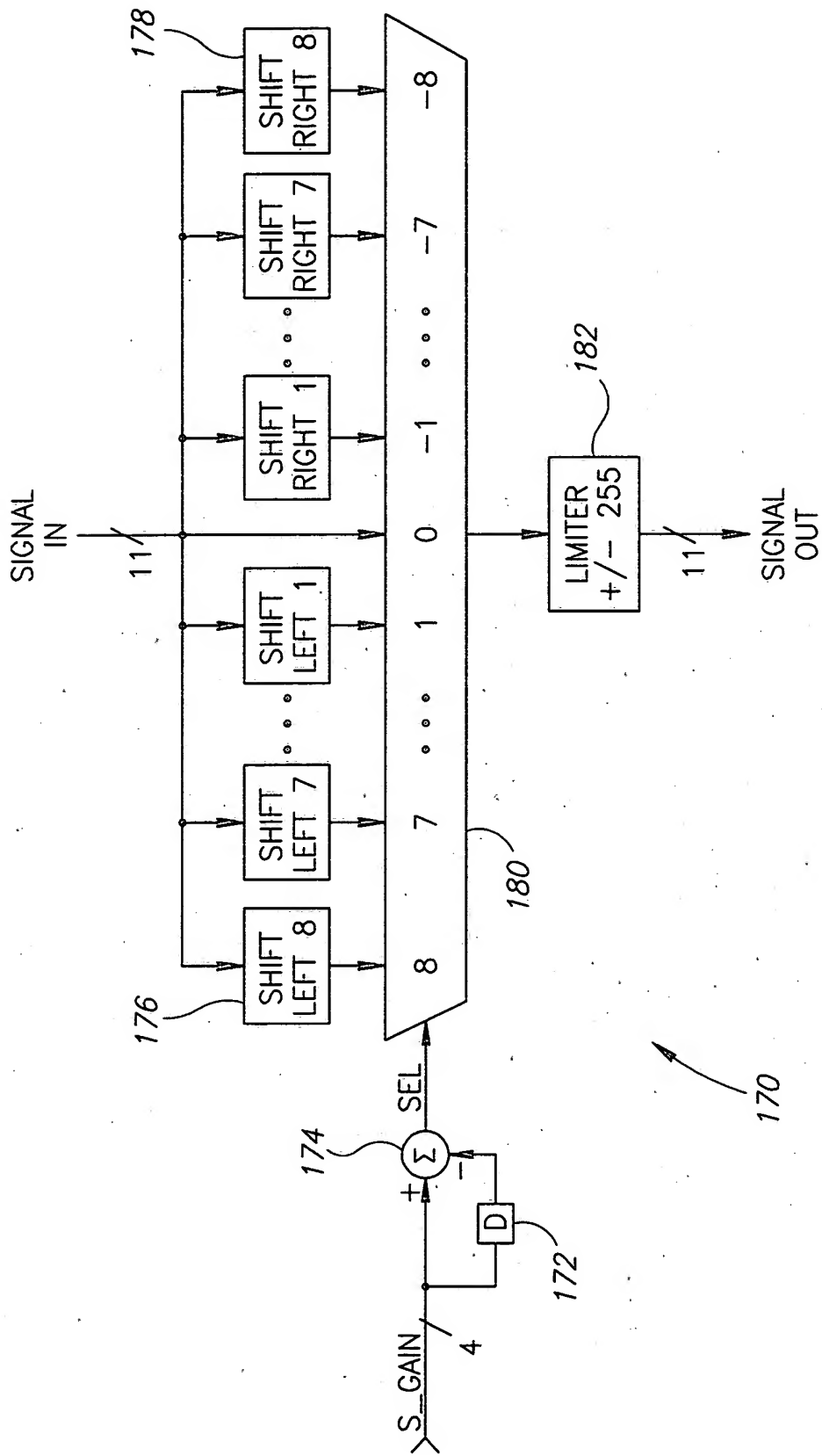


FIG.5

## LISTING 1

```
IF BEFORE_RX_START
    MAX_KCH = 2-2;
    MAX_KDS = 2-9;
    MIN_KCH = 2-2;
    MIN_KDS = 2-9;
    % THIS IS STAGE 1. IN THIS
    % STAGE NO LIMITING IS REQUIRED

ELSE
    IF AFTER_SYNC
        MAX_KCH = 2-7;
        MAX_KDS = 2-8;
        MIN_KCH = 2-7;
        MIN_KDS = 2-8;
        % THIS IS STAGE 3. IN THIS
        % STAGE THE MECHANISM IS QUIET

    ELSE
        MAX_KCH = 2-2;
        MAX_KDS = 2-8;
        MIN_KCH = 2-2;
        MIN_KDS = 2-8;
        % THIS IS STAGE 2. IN THIS
        % STAGE WE WORK ON SCALED SIGNALS

    END
    IF (MAX_PEAK(K)-MIN_PEAK(K)) > 512
        MAX_KDS = 2-4;
        MIN_KDS = 2-4;
        % THE LIMITERS HAVE
        % PRECEDENCE IN
        % DETERMINING COEFFICIENTS

    ELSEIF (MAX_PEAK(K)-MIN_PEAK(K)) < 100
        MAX_KCH = 2-4;
        MIN_KCH = 2-4;
    END
END
```

FIG.6

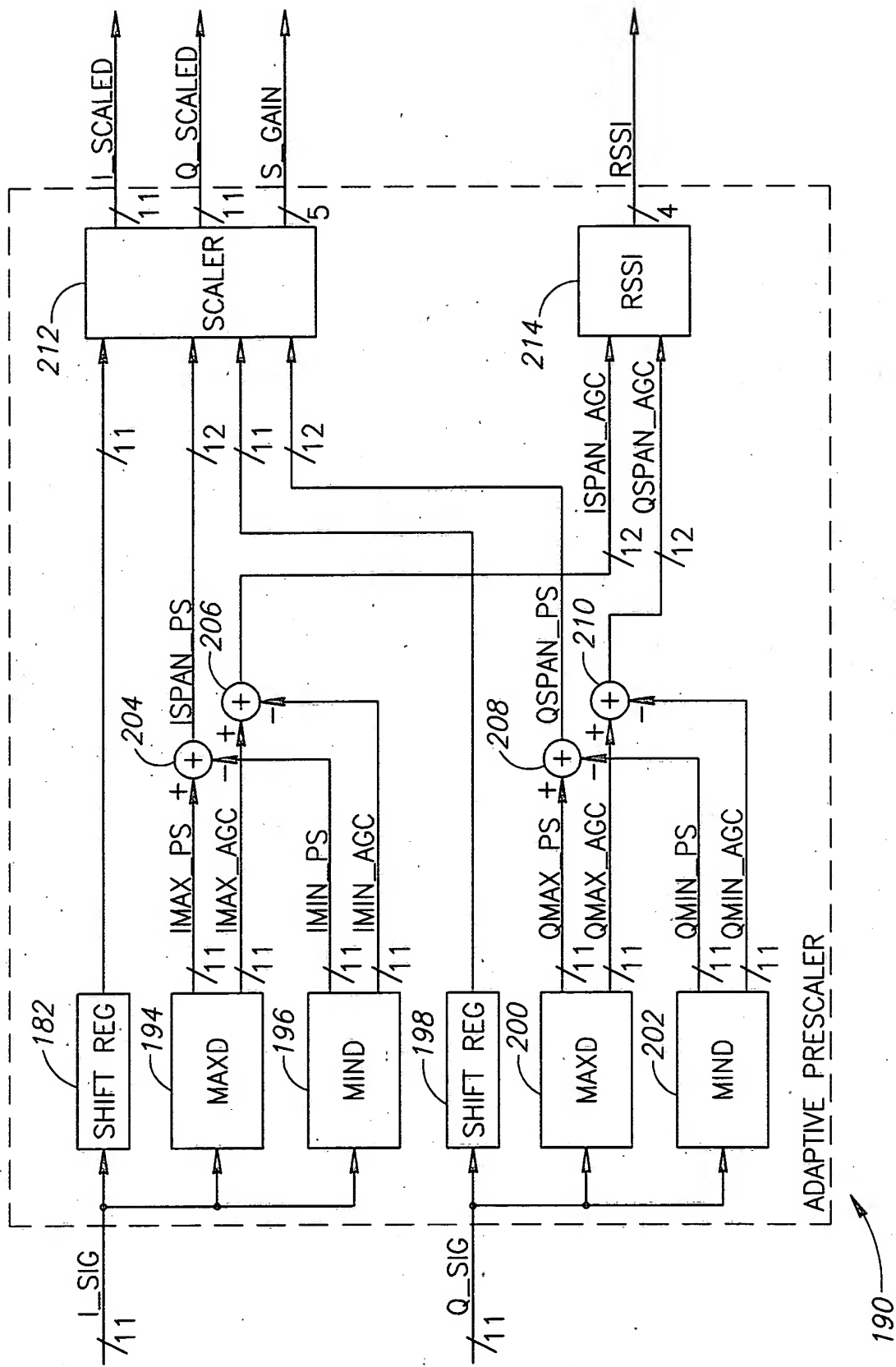


FIG. 7

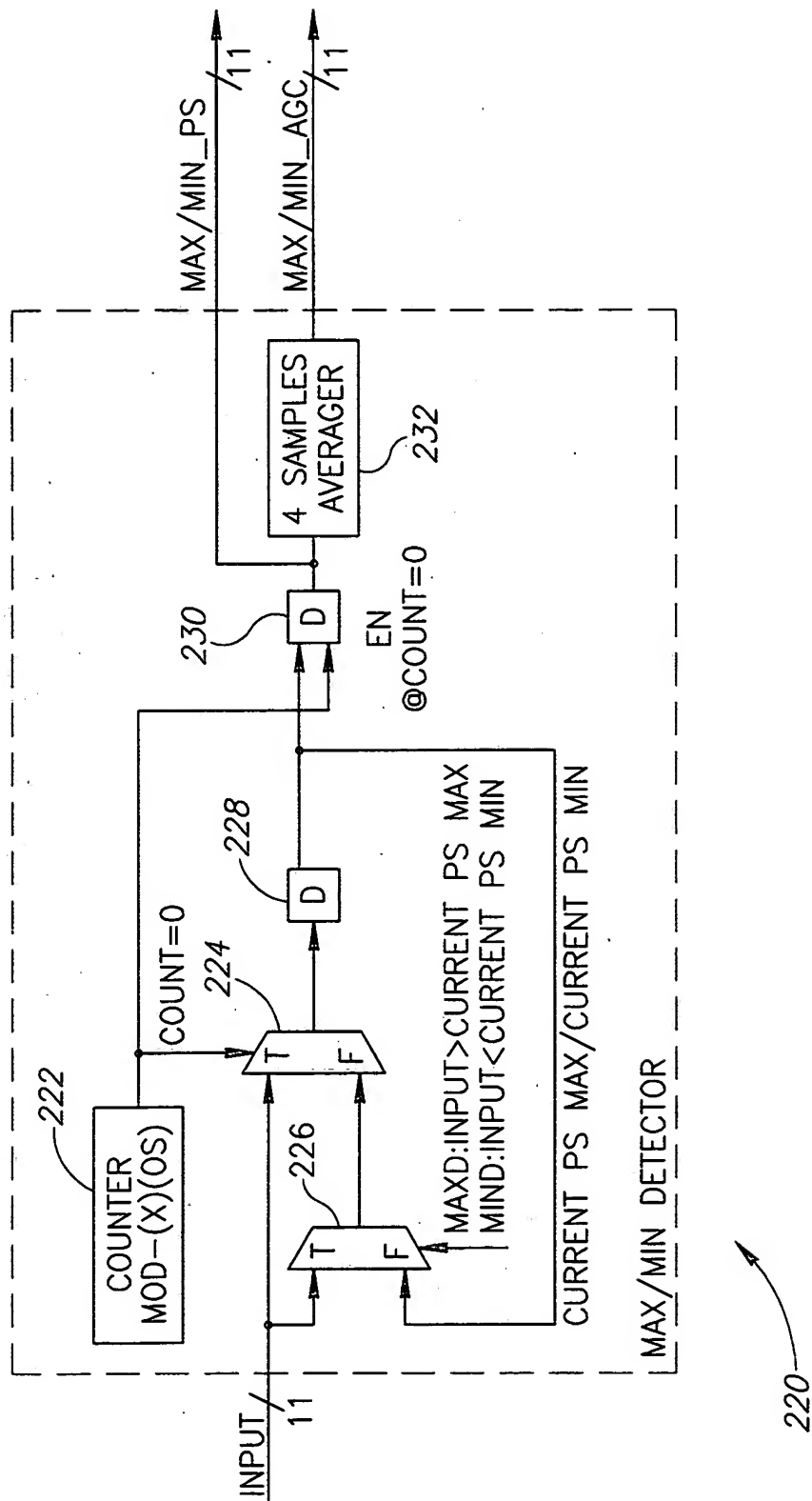


FIG. 8



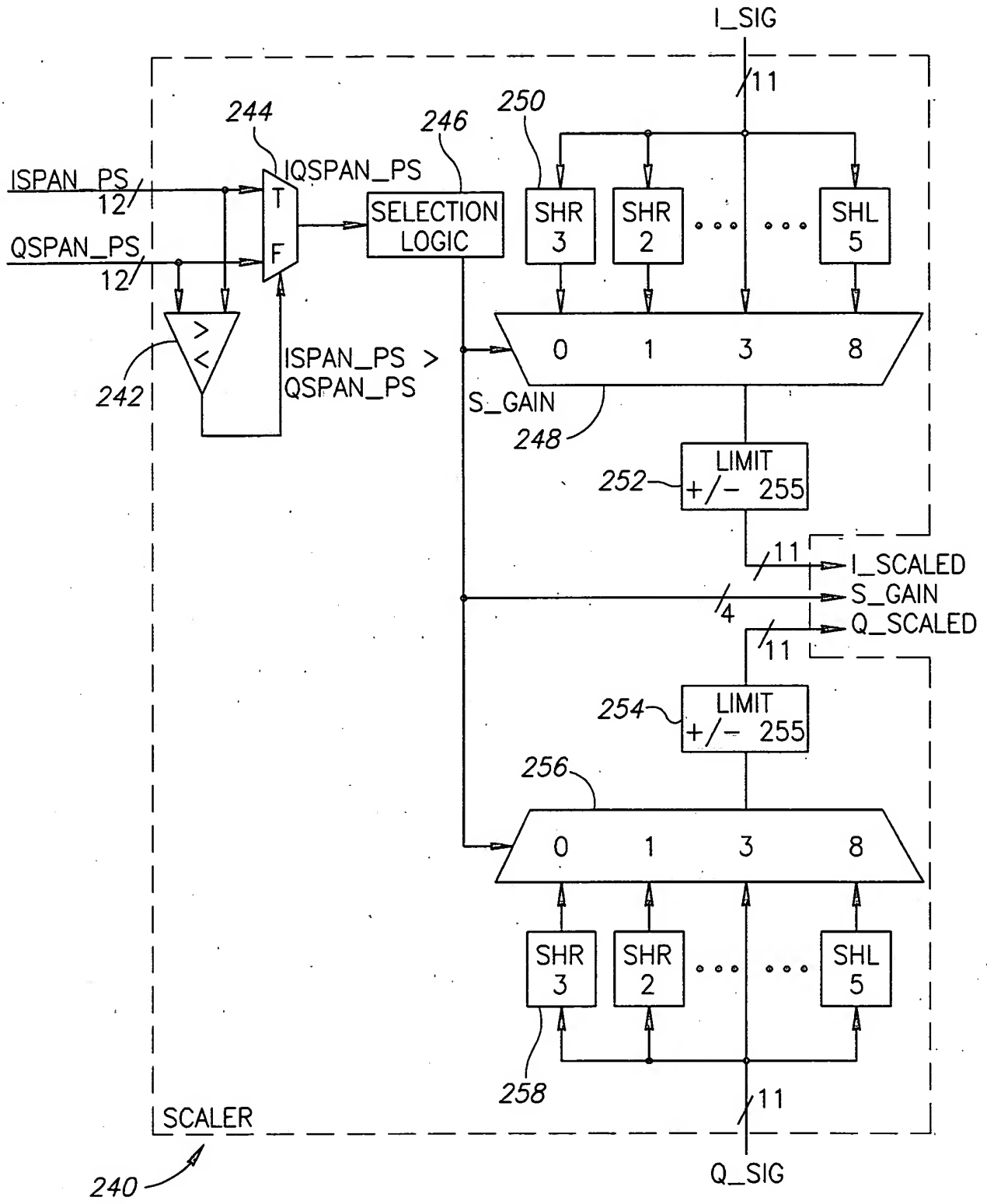


FIG.9

## LISTING 2

```

IF IQSPAN(10)==1
    S_GAIN = 0;
ELSEIF IQSPAN(9)==1
    S_GAIN = 1;
ELSEIF IQSPAN(8)==1
    S_GAIN = 2;
ELSEIF IQSPAN(7)==1
    S_GAIN = 3;
ELSEIF IQSPAN(6)==1
    S_GAIN = 4;
ELSEIF IQSPAN(5)==1
    S_GAIN = 5;
ELSEIF IQSPAN(4)==1
    S_GAIN = 6;
ELSEIF IQSPAN(3)==1
    S_GAIN = 7;
ELSE
    S_GAIN = 8;
END

% PEAK-TO-PEAK >=1024 (IQSPAN IS 12 BITS 11:0)
% PEAK-TO-PEAK >= 512
% PEAK-TO-PEAK >= 256
% PEAK-TO-PEAK >= 128
% PEAK-TO-PEAK >= 64
% PEAK-TO-PEAK >= 32
% PEAK-TO-PEAK >= 16
% PEAK-TO-PEAK >= 8
% PEAK-TO-PEAK < 0

```

```

IF ABS(S_GAIN-PREVIOUS_S_GAIN) <= 1
    S_GAIN=PREVIOUS_S_GAIN;
ELSEIF S_GAIN-PREVIOUS_S_GAIN == 2
    S_GAIN=PREVIOUS_S_GAIN+1;
ELSEIF S_GAIN-PREVIOUS_S_GAIN == -2
    S_GAIN=PREVIOUS_S_GAIN-1;
END

```

FIG.10